

**STAFF REPORT FOR ITEM NO. 6**

**ATTACHMENT NO. 4**

**TENTATIVE ADDENDUM NO. 3 TO ORDER 97-11:**

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR POST-CLOSURE  
MAINTENANCE OF INACTIVE NONHAZARDOUS WASTE LANDFILLS  
IN THE SAN DIEGO REGION**

**BY**

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## **BACKGROUND**

Waste management practices associated with the classification and disposal of solid wastes has evolved over many years in California. The more restrictive modern landfill construction requirements, waste classification, and waste disposal practices/ prohibitions have been only recently developed in response to legislative mandates. Pre-1984 municipal landfills received a variety of waste streams during their operational lives. These municipal waste streams included mixtures of municipal solid wastes, agricultural wastes and industrial wastes.

Older landfill sites may reasonably be expected to have more regularly received/accepted discharges of “hazardous wastes” than their modern counter parts. The Regional Board staff has found information indicating that some facilities, currently regulated under General Order 97-11, likely to have received regular discharges of hazardous waste during their operational lifetime. The Regional Board staff have identified specific documentation indicating that the following landfills have likely received regular past discharges resulting in significant volumes of hazardous wastes: include the Mission Bay Landfill, the Naval Air Station North Island - Golf Course Landfill, and the old Marine Corps Recruit Depot (MCRD) Landfill.

## **INFORMATION RELATING TO THE WASTE STREAMS DISPOSED INTO PRE-1984 MUNICIPAL LANDFILLS**

This section summarizes specific information received from dischargers indicating that significant quantities/volumes of hazardous wastes have historically been disposed at the following facilities:

**Mission Bay Landfill.** In February 1957, the Regional Board received a copy of a letter report sent by the Convair Division of General Dynamics to the Department of Public Works. The letter from Convair provided a report of industrial waste disposal into the Mission Bay Landfill as follows:

<b>Year of Disposal</b>	<b>Waste Type(s)</b>	<b>Description</b>	<b>Estimated Volume(s)</b>
1956	Contaminated Process Solutions	Plants 1 and 2 generate caustic soda, chromic acids, dichromates, hydrofluoric, nitric, sulphuric, and hydrochloric acids, and cadmium cyanides.	20,000 gallons
1956	Other Liquid Wastes	Include contaminated oils from the machine shop, spent and rancid coolants from production milling operations and paint sludges and dirty lacquer thinners from pain shops. These materials are closely associated with water and sludge. Solid wastes include magnesium turnings and cake cyanide. <sup>1</sup>	121,000 gallons

**NOTES:**

- 1 = The report states that cyanide wastes were encased in concrete and dumped at sea under State supervision. In the past magnesium wastes have been buried. 5,000 pounds were disposed of in this manner in 1956.

The letter also states that the method of “all other solutions is hauling and dumping into the sanitary fill in the Mission Bay area.” The report of industrial waste disposal estimated that Convair would generate annual volume of liquid industrial wastes of approximately 200,000 gallons for the years from 1957 to 1962. The waste stream was expected to contain 149,000 gallons of paint and oil wastes and 51,000 gallons of process solutions.

The findings of Regional Board Resolution No. 58-R15 indicate that Messrs. Joseph Feeney and William O'Donnell provided verbal testimony (on July 28, 1959) to notify the Regional Board of the need for waste discharge requirements for the proposed waste disposal operations at the former Omar Rendering Facility because of “... the imminent closing of the Mission Bay Sanitary Fill, the only Class I disposal area now in operation in metropolitan San Diego; ...”

**Closure of Mission Bay Landfill:**

On September 16, 1985, the Regional Board issued post-closure waste discharge requirements and monitoring requirements for the Mission Bay Landfill. According to the findings of Order 85-78 “The Site Closure of City of San Diego Mission Bay Landfill, San Diego County”:

<b>Finding No.</b>	<b>Order 85-78 : Finding</b>
3	The discharger indicates that the Mission Bay Landfill was opened on July 24, 1952 and operated until December 7, 1959 as an unrestricted landfill, accepting as much as 25,000 cubic yards of municipal and public refuse monthly.
4	The disposal method utilized at Mission Bay Landfill consisted of ditches about 60 feet long by 15 feet deep, and as much as 5 to 10 feet below the water table. After placement of waste material in the trenches a cover of 3 to 4 feet was placed over the disposal area. The landfill ranges in thickness from approximately 7 feet to 20 feet.
5	Following the cessation of landfilling operations, 5 to 20 feet (+/-) of hydraulic fill, dredged from Mission Bay, was placed over the landfill and adjacent area by 1962. The site received an additional 76,000 cubic yards of hydraulic fill in 1980. In addition, several thousand cubic yards of clean fill soil were placed over the south central portion of the landfill. The current cover thickness over the landfill averages approximately 8 feet.
10	The City of San Diego has submitted the following technical reports that present the results of two studies of the Mission Bay Landfill site to assess the presence

	<p>and extent of priority pollutants contamination in site [sic] to assess the presence and extent of priority pollutant contamination in and adjacent to the landfill:</p> <p>Science Applications, Incorporated, <i>A Characterization of the Extent of Priority Pollutant Contamination in Mission Bay</i>, October 1983.</p> <p>Woodward-Clyde Consultants, <i>Site Assessment Report, Mission Bay Landfill</i>, Project No. 53221S-0006, dated November 17, 1983.</p>
11	<p>The Woodward-Clyde Consultant Report noted in Finding 10 specifically evaluated the presence and concentration of priority and certain non-priority pollutants in approximately 200 landfill, soil, gas and water samples as well as in samples from locations adjacent to the landfill....</p>
12	<p>The Regional Board staff has reviewed the Woodward-Clyde Consultants and Science Applications, Incorporated reports noted in Finding No. 10 and considered the Woodward-Clyde Consultants findings noted in Finding No. 11 and concluded that there is not definitive evidence of waste constituents from the Mission Bay Landfill being detected in either Mission Bay or the San Diego River. However, staff has determined that the Mission Bay Landfill poses a potential threat of degradation to adjacent surface waters and that an ongoing detection monitoring program as provided by this Order is necessary at the site to determine if waste constituents from the landfill site are migrating to adjacent surface waters.</p>

The Regional Board staff was unable to find any records indicating that waste discharge requirements had been issued for the Mission Bay Landfill during its operational life from 1952 to 1959. The fact that the discharger references the facility as an “unrestricted landfill” (see Finding No. 3 or Order 85-78, referenced above) suggests there were few if any restrictions upon the types of wastes that could have been discharged into the Mission Bay Landfill.

#### **Naval Air Station North Island (NASNI), Golf Course Landfill.**

According to a site investigation report (SWDIV, 1995) submitted to the Regional Board, the Golf Course Landfill (AKA Installation Restoration Program (I.R.) Site 5) was operated as a “cut –and-cover” sanitary landfill from the early 1940’s until 1965. Wastes were periodically burned to reduce volume. The Golf Course Landfill was the only solid waste disposal site on North Island after the closure of the Old Spanish Bight Landfill (AKA I.R. Site 2) in the early 1940’s.... NAS North Island chemical wastes that were not discharged to the drain system or to the Chemical Waste Disposal Area (AKA I.R. Site 9), were disposed at the Golf Course Landfill. The Navy estimated that 1,000 to 2,000 tons of hazardous wastes were disposed at the site. Waste disposed at the site consisted of trash, sand blast grit, acids, oils, solvents, caustics, hydraulic fluid, contaminated solid wastes, and small cans of epoxy, resins, adhesive, paint, asbestos, and sludges. These wastes were disposed of with ordinary refuse and were not separated or segregated in the disposal area.

**Old Marine Corps Recruiting Depot (MCRD) Landfill.**

The Old MCRD Landfill has been owned by the U.S. Navy since 1923, the facility was operated by the U.S. Marine Corps from 1950 to 1971. As part of the Base Realignment and Closure (BRAC) process, the Navy transferred property ownership to the San Diego Unified Port District in 2001.

According to the Solid Waste Water Quality Assessment Test (SWDIV, 1991) submitted to the Regional Board, disposal operations at the MCRD disposal began by randomly discharging waste material along the northern edge of the salt marsh and gradually extended southward into the marshy area. This practice continued until 1960 when dredged material was being used to reclaim the salt marsh. East-west oriented trenches (approximately 8 ft by 50 feet by 12 feet) were excavated into the fill material, filled with wastes, then covered. It is estimated that approximately 5 million cubic yards of waste were discharged into the site.

The MCRD Landfill reportedly received dumpster wastes (refuse) from MCRD and some dumpster wastes from the Naval Training Center (NTC) during the middle years of operation. Prior to 1971, the Navy reports that hazardous wastes were regularly placed into the dumpsters. Other sources of hazardous wastes discharged into the Old MCRD Landfill are listed in the table below.

<b>Source and Waste Type</b>	<b>Operation</b>	<b>Estimated Annual Generation (Total gals)</b>	<b>Treatment or Disposal Practice</b>
Waste Lube Oil (Service Schools)	1943-1986	760 gallons (32,680)	Buried at MCRD refuse area; then taken off site or sewered.
Plating Wastewaters (Service Schools)	1955-1980	25 gallons (625)	Discharge to sanitary sewer 1955-1967, buried at MCRD refuse disposal area 1967-1975.
Paint wastes (Navy Public Works)	1923 -1986	50 gallons (3,150)	Placed in dumpsters.
Pesticide Containers	1940's - 1986	Unknown	Placed in dumpsters.
Waste pesticides	1940's - 1986	Unknown	Buried DDT at MCRD disposal area during 1960's and 1970's.
Contents of Transformers	?	Unknown	Transformers, including those containing PCBs, were drained at the MCRD refuse disposal area.
Hazardous wastes from NTC	?	Unknown	Disposal of wastes at MCRD included: methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), xylene, gasoline, and metal plating wastes. The estimated total for disposal of NTC liquid hazardous wastes is between 3,000 to 4,000 gallons.

**DISCUSSION:** Prior to the modern requirements that exist in the California Code of Regulations, State requirements regulating discharges of wastes to land were located in the California Administrative Code (CAC). By earliest available guidance documentation from the State Water Resources Control Board (Franks, 1972, "Waste Discharge Requirements for Nonsewerable Waste Disposal to Land", State Water Resources Control Board -SWRCB), "Class 1" facilities were allowed to accept Group 1, Group 2, and Group 3 wastes for disposal.

Group 1 wastes contained materials perceived (at the time) to be "hazardous" or "toxic" in nature and could be comprised of the following waste streams of "Industrial origin":

1. Brines from food processing, oil well production, water treatment, industrial processes, and geothermal plants.
2. Other toxic or hazardous fluids from industrial operations such as spent cleaning fluids, petroleum fractions, chemicals, acids, alkali's, phenols, and spent washing fluids.
3. Substances from which toxic materials can leach such as process ashes, chemical mixtures, and mine tailings.

The types of wastes discharged into the Mission Bay Landfill by operations at the Convair Division of General Dynamics are consistent with the description of "Group 1 wastes" given above. The waste classification cited above post-dates the operational life of the Mission Bay Landfill (1952 to 1959). It is possible that some of the terminology used to describe "wastes" and "waste disposal sites" was in common use earlier than the cited reference. The terminology used in the SWRCB guidance document is likely to be analogous or of similar to the meaning of the term "Class 1 site" used by Messrs. Joseph Feeney and William O'Donnell to describe the "current" (as of 1959) disposal practices used at Mission Bay Landfill.

The Regional Board has not historically regulated waste disposal practices by the U.S. Navy at Naval Air Station North Island or the Old MCRD Landfill. The only historical records of such activities available to the Regional Board staff are those reports submitted to the Regional Board as a participant in the Statewide Department of Defense (DoD) Program.

**STAFF CONCLUSION:** Based upon the information available to the Regional Board staff, it seems likely that at least several of the landfills (*e.g.*, the Mission Bay Landfill, NASNI Golf Course Landfill, and Old MCRD Landfill) received significant volumes of "hazardous wastes" as defined by modern regulatory criteria. The Regional Board staff recommends that the title of Order 97-11 be amended to include the terms hazardous and nonhazardous wastes.

### **REFERENCES CITED**

**Franks, A.L., 1972**, “Waste Discharge Requirements for Nonsewerable Waste Disposal to Land: Disposal Site Design, Operation, and Closure Information”, California State Water Resources Control Board, pp. 31-35, and Appendix I.

**California Regional Water Quality Control Board – San Diego (RWQCB), 1985**, “Order 85-78: Waste Discharge Requirements for the Site Closure of the City of San Diego Mission Bay Landfill, San Diego County”, dated September 16, 1985.

**Southwest Division Naval Facilities Engineering Command (SWDIV), 1995**, “Final NAS North Island Site 5 – Golf Course Garbage Disposal Area Site Characterization Summary – Technical Memorandum CTO-0009”, dated February 1995.

**Southwest Division Naval Facilities Engineering Command (SWDIV), 1991**, “Draft Solid Waste Water Quality Assessment Test and Site Inspection Work Plan, Marine Corps Recruit Depot (MCRD) Disposal Area”, dated January 11, 1991.